Rabbim Mikhlievich Yusupov
Jizzakh State Pedagogical Institute
head of the department,
candidate of technical sciences, associate professor
department of Teaching Methods of Informatics
Uzbekistan

DEVELOPMENT OF BASIC PROFESSIONAL COMPETENCIES OF FUTURE TEACHERS IN THE PROCESS OF PROJECT ACTIVITIES

Abstract: *In recent years, competencies have come to the fore in education. We are witnessing rapid technological change, the process of globalization, the growth of diversity. Under these conditions, education undoubtedly plays a huge role in preserving social well-being and political stability, productivity and competitiveness. We are talking about competence and competencies as a new unit of measurement of education, while attention is focused on learning outcomes, which are considered not the sum of memorized knowledge, abilities, skills, but the ability to act in various problem situations. In this work, the basic professional competencies of future teachers are considered as a complex of universal and general professional knowledge, skills, practical experience that ensure the ability and readiness of a person to solve problems of professional and other types of socially and personally significant activities. Basic professional competencies are primary in relation to special competencies and serve as the basis for their formation in the educational process of a higher educational institution. The role and place of design technologies in the system of training future teachers that ensure the effective formation of basic professional competencies are shown. The necessity of using project activities in the educational system of higher education institutions in the formation of professional competence has been proved, its universality and effectiveness in combination with other teaching methods have been determined.*

Key words: *project, project method, project activity, competencies, basic professional competencies, pedagogical technologies, information projects, creative projects, research projects.*

Language: *English*

Citation: Yusupov, R. M. (2021). Development of basic professional competencies of future teachers in the process of project activities. *ISJ Theoretical & Applied Science, 12 (104),* 176-181.

Soi: http://s-o-i.org/1.1/TAS-12-104-7   *Doi*: crossref https://dx.doi.org/10.15863/TAS.2021.12.104.7

Scopus ASCC: 3304.

Introduction

The ongoing changes in the system of secondary vocational education have highlighted the problem of finding ways to improve the efficiency of professional development of future specialists. The formation of basic professional competencies of students takes an important place in the process of formation of their competitive personality and is one of the main tasks facing institutions of higher professional education. This circumstance is actualized by the fact that at present the interest for society and the employer in the labor market is a specialist who has a high level of basic professional competencies, prepared to solve professional problems in various conditions, who is able to make optimal decisions and organize his own activities. It is with the formation of the competence of the future specialist that the modern quality of professional education is associated, which ensures the competitiveness of the graduate in the labor market.

The analysis of scientific literature on the problem of the formation of basic professional competencies of the future teachers made it possible to identify its specific features in the system of pedagogical education. Currently, the interest for society and the employer in the labor market is a specialist who is prepared to solve professional problems in various conditions, who knows how to

organize his own activities, make optimal decisions, i.e. possessing basic competencies at a high level [1-6].

Main part

The formation of basic professional competencies of future teachers occupies an important place in the process of becoming a competitive personality of a future specialist and is one of the main tasks facing institutions of higher pedagogical education at the present stage of its development.

The development and gradual formation of the basic professional competencies of students is carried out in the process of performing various types of educational activities: in the process of assimilating the content of lectures and seminars, completing coursework and projects, a diploma project, performing practical tasks during educational and industrial practices, as well as various types reproductive and research independent work outside the classroom.

Project activity, being an integral component of the competence-based paradigm of education, which is based on the concept of "activity", forms a set of certain competencies in students, both general cultural and professional for a certain type of professional activity. We can talk about the competence-based approach as the leading strategy for training a new generation of specialists.

This strategy determined the importance of project activities as a means of implementing a partial search method of teaching in the process of professional competencies that they need as future specialists in their professional activities.

Project technology in the implementation of the competence-based approach is the scientific design and reproduction of the teacher's pedagogical actions aimed at the formation of the student's competencies and, as a consequence, his professional competence by the methods of project activity.

In general, the technological chain of the teacher's organization of project activities in the implementation of the competence-based approach should include certain constructive actions: defining a set of competencies assimilated by the student during the development and implementation of the course curriculum project in the discipline; the choice of a rational structure of the course project and the determination of its compositional structure; pedagogical actions of choosing the most rational types of assimilation of new material and competencies in the course of planning a student's work when performing an educational course project; identification of possible difficulties in the course of the training course project with the best ways to resolve these difficulties.

Project activity allows the student to model his educational and professional activity in a particular professional situation, thereby adapting to real professional activity. So, the pedagogical adaptation of students in such areas as educational activity, interpersonal relations and professional development, proceed successfully if the teaching staff and the entire educational system in institutions of secondary vocational education are aimed at enhancing the adaptive potential of the student's personality, the central components of which are the characteristics of self-awareness and value-motivational sphere, in particular the level of aspirations, characterizing the setting of goals and objectives, correlating real achievements and plans for the future, determining the level of complexity of solving life, educational and professional tasks.

Traditionally, there are three forms of university educational projects, which are reflected both in the state educational standard and in the standard curricula for training specialists, bachelors and masters: diploma projects, course projects and course mini-projects (course papers). These projects differ both in the didactic design goals and the timing of the time allotted for their implementation.

The course project, as a form of educational activity, got its name, because, as a rule, it is carried out within the framework of the knowledge of one academic course (one discipline, one subject) and integrates the knowledge of a holistic course.

At the same time, some academic disciplines with an increased scientific capacity are continuously taught for 2-3 semesters. One of the active forms of studying such courses by students is the implementation by them of the so-called term papers. Course work covers only some part of a holistic educational course, some conditionally local, independent educational module of this course. It seems most appropriate to call this type of project activity not a term paper, but a term mini-project.

The diploma project is carried out at the last stage of a student's education at the university - at the stage of diploma design. The diploma project is always focused on solving such a problem in the direction of training and the profile of the specialty, which requires the use of numerous and varied knowledge contained in the totality of all academic disciplines studied by the student throughout the entire period of study. Thus, a diploma project is a qualifying work with an increased level of interdisciplinary, interdisciplinary and supra-subject (interdisciplinary) integration of knowledge.

In a broad sense, pedagogical technology is a systematic method of planning, applying and evaluating the entire learning process and assimilation of knowledge by taking into account human and technical resources and the interaction between them in order to achieve its greatest efficiency [10]. The characteristic features of the pedagogical technology used in the preparation of future teachers are:

- conceptuality - the technology is developed for a specific pedagogical concept, it is based on a certain

methodological, philosophical, psychological and pedagogical position of the author;

- consistency - the technological chain of pedagogical actions, operations, communications is built strictly in accordance with the target settings, which have the form of a specific expected result; didactic goal-setting - the presence of didactic procedures containing criteria, indicators and tools for measuring the results of students' activities and ensuring the guaranteed achievement of educational goals, the effectiveness of the learning process;

- innovativeness - the technology provides for the interconnected activity of the teacher and the student on the basis of educational cooperation, dialogical communication, interactive approaches to learning;

- Optimality - the optimal implementation of human and technical capabilities, the achievement of planned results in the shortest possible time intervals;

- adaptability - the ability to implement operational feedback, focused on ensuring a well-defined goal;

- reproducibility and guarantee of results - elements of pedagogical technology should, on the one hand, be reproducible by any teacher, and on the other hand, guarantee the achievement of the planned results.

The project technology of teaching is understood as a set of methods, methods, techniques and means of organizing educational and cognitive activities of students through their implementation of educational projects [8].

The interest on the part of higher pedagogical education in project-based learning technologies and the demand in the educational services market is explained by their advantage over other traditional and innovative learning technologies. In this regard, the following main characteristics and the resulting didactic values of design technologies should be highlighted [8, 9]:

- the basis of any project is a target setting for solving a specific problem, which allows each student to be involved in an active cognitive creative process ... At the same time, the orientation of the educational and cognitive process should be such that students know why they need this or that knowledge, for solving what problems they can be useful;

- project training technology is focused on integration, on combining theoretical knowledge with practical activity. In the process of project implementation, not only the formulation and solution of a certain mental task is carried out, but also its practical implementation in the form of a report, drawing, text, software product, product; implementation of project training technologies contributes to an increase in the level of functional literacy of students;

- esign technology always presupposes a solution to some problem, in this connection, some scientists and educators call it the "method of problems";

- the method of projects is focused on independent creative project activity of students, which is performed either individually or by a group of students under the guidance of a teacher for a certain period of time. As a result of this type of activity, students develop skills and consolidate the skills of organizing independent work, searching for and obtaining the necessary information from bibliographic sources, patent funds, the Internet, independent decision-making when considering multi-criteria optimization tasks, technical and graphic presentation of the results of execution work, presentation and advertising of their developments, and in some cases protection of intellectual property and a number of other professional competencies, which require the manifestation of personal initiative and enterprise;

- work on a project is an activity based on joint work and cooperation in the process of communication, communication;

- the method of projects allows students to choose activities according to their interests, according to their abilities, which creates motivation for learning and contributes to the emergence of interest in subsequent affairs, the future sphere of professional activity, encourages students to actively use existing and acquire new knowledge, develop skills and skills in solving specific problems;

- the method of projects allows students to actively develop the basic types of thinking, creativity, the desire to create themselves, to recognize themselves as a creator when working with "naughty tools" and "unyielding materials", with "smart machines" and "technological systems" ... In the design process, students develop and consolidate the skills of analyzing consumer, economic, environmental and technological situations, the ability to evaluate ideas based on real needs, material capabilities, the ability to choose the most technological, economical, meeting the previously specified requirements, the method of manufacturing the object of project activity (product of labor);

- project teaching technologies are an effective didactic toolkit for the socialization of thinking and activity. This is due to the fact that initially the educational project is focused on solving a specific problem that has a certain pragmatic value and social significance;

- the solution of the problem inherent in the educational course or diploma project, in most cases, is associated with the involvement of integrated knowledge. Even if the topic of an educational project refers to one problem within the framework of one specific academic subject, then for its optimal, best solution, one has to use not only knowledge from different sections of the given subject, but also from other studied subjects, i.e. e. use intra-subject and inter-subject integration. Moreover, in a number of

cases, when implementing projects, it is advisable to use the techniques of monodisciplinary and core integration.

The type of creative projects, and they can be analytical, experimental, analytical - experimental, search, inventive, etc., should include those, as a result of which either a new material or intellectual product is created (technical object, technology manufacture of an object, a new method of application, a computer program, etc.), or new, hitherto unknown knowledge is discovered and learned [13].

To the type of creative projects, first of all, it is necessary to include research projects, which mean the activities of students aimed at solving a specific research problem with an unknown solution in advance.

Results and discussion

According to the level of integration of knowledge used in the implementation of the educational project, the latter are subdivided into intra-subject (monodisciplinary), inter-subject (transdisciplinary), supra-subject, in which not only knowledge that is part of the disciplines of the curriculum of higher education is used, but also knowledge from other areas. science and technology.

Educational telecommunication projects occupy a special place in the group of projects. An educational telecommunication project is understood as a joint educational and cognitive activity of students - partners from different universities of the same city, from other cities and foreign countries, organized on the basis of computer telecommunications using e-mail or the Internet. Such projects, as a rule, are interdisciplinary in nature and are carried out within the framework of a common global problem, a single goal, agreed methods and methods of activity aimed at achieving a common result.

By the number of project participants, projects can be distinguished: individual; paired; group. Other classifications of projects are given in [14, 16].

Project-based teaching technologies have been widely used in higher education for about two centuries. It was not possible to find a systematized methodological and generalizing methodological literature on this type of educational activity of students on the shelves of libraries and bookstores, but there is a number of educational and methodological manuals for the implementation of course and diploma projects in specific subjects and specialties [7, 12], as well as methodological instructions on the organization of specific types of educational projects, but they reflect only some local and specific pedagogical experience and have narrow segments of their use.

Students in accordance with the curriculum carry out the following types of projects: research; informational; creative; applied and interdisciplinary.

Research projects include the following types of projects: - course projects; - final qualification works (diploma projects); - coursework by discipline; - calculating and calculating-graphic works on separate sections of the discipline; - reports on educational, training and production, industrial, pre-diploma practices.

Research projects require a well-thought-out structure, designated goals, the relevance of the research subject for all participants, social significance, appropriate methods, including experimental and experimental work, methods of processing results. These projects are completely subordinate to the logic of research and have a structure that approximates or completely coincides with genuine scientific research.

Research projects imply a strict argumentation of the relevance of the topic taken for research, formulation of the research problem, its subject and object, designation of research tasks in the sequence of the accepted logic, determination of research methods, sources of information, choice of research methodology, hypotheses for solving the indicated problems, development of ways to solve it, including experimental, experimental, discussion of the results obtained, conclusions, registration of research results, designation of new problems for the further development of the research.

In pedagogical practice, mixed types of projects are most often used, in which there are signs of research and creative, practice-oriented and research projects. Each type of project is characterized by one or another type of coordination, deadlines, stages, number of participants. Therefore, when developing a particular educational project, one must bear in mind the signs and characteristic features of each of them. At the same time, it is necessary to highlight the following conditions that can ensure the successful application of design technologies for the formation of basic professional competencies of future teachers: the involvement of each student in an active cognitive process; joint work in cooperation in solving various problems, when it is required to show appropriate communication skills; free access to the necessary information in order to form your own independent, but reasoned opinion on a particular problem, the possibility of its comprehensive study; constant tests of their intellectual, physical, moral forces to determine the emerging problems of reality and the ability to solve them, performing different social roles [15].

The formation and development of basic professional competencies of students of pedagogical universities is especially effective in the process of their graduation project implementation.

Diploma projects are always interdisciplinary (transdisciplinary). This is due to the fact that they are performed on the basis of knowledge of a large number of academic disciplines. Moreover, some diploma projects are carried out as supra-subject, in

which knowledge from such areas of science and technology is integrated that are not part of the academic disciplines of the educational program for the preparation of a specialist of this profile or specialty.

Analysis of scientific and methodological literature and pedagogical experience showed that today in pedagogy there are two approaches to the organization of educational design: the first (traditional) approach, in which each of the course mini-projects or course projects is an autonomous (local) project focused on solution of some conditionally independent problem (subproblem, task); the second (innovative) approach, in which course mini-projects in a particular discipline are linked together into an integral garland by a single problem, a single object and a single design methodology, and a garland of course projects in different disciplines is linked (integrated) with each other by a single problem, a single object and design methodology into a single integral project.

The forms of presentation of the results of students' project activities are also varied, which are carried out in the form of explanatory notes, scientific reports, working drawings, computer programs,

layouts, models, experimental industrial samples.

It is obvious that the implementation of complex diploma projects is associated not only with interdisciplinary, but also supra-subject, interdisciplinary integration of knowledge, and the organization of this type of diploma design requires high professional and methodological competence from project managers.

Conclusion

Thus, project activity is the basis for the development of basic professional competencies of students, and the variety of types of project technologies allows teachers of higher educational institutions to make the learning process person-centered, individual, to increase the interest and motivation of students to study.

In modern conditions, knowledge and skills as a unit of educational result are necessary, but not sufficient in order to be successful in society. For a specialist, it is not so much encyclopedic literacy that is important as the ability to apply generalized knowledge and skills to resolve specific situations and problems that arise in real professional activity.

References:

1. Blinov, V.I. (2007). *Competence-based approach and a new educational standard*. Integration of primary and secondary vocational education (experience of Moscow and the regions). (pp.17-22). Moscow: NP APO.
2. Bolotov, V.A., & Serikov, V.V. (2003). Competence model: from idea to educational program. *Pedagogy*, No. 10, pp. 8-14.
3. Budik, I.B. (2001). Development of professionally significant qualities of a future specialist in the context of the formation of key competencies. *Additional education*, No. 3, pp. 52-54.
4. Zeer, E.F. (2007). *Conceptual and terminological support of the competence-based approach in vocational education*. Conceptual apparatus of pedagogy and education. (pp.345-356). Moscow: Humanities. ed. center VLADOS.
5. Winter, I.A. (2003). Key competences - a new paradigm of the result of education. *Higher education today*, No. 5, pp. 34–42.
6. Ibragimov, G.I. (2005). *The quality of training of middle-level specialists as a pedagogical problem*. Professional education in Russia: methodology and theory. (pp.25-60). Moscow:

Humanities. ed. center VLADOS; Kazan: IPP PO RAO.
7. (2001). *How to write a thesis: Textbook. method, manual*. E. Umberto; Per. with ital. E. Kostyukovich. (p.240). Moscow: Book. House. "University".
8. Mikhelkevich, V.N., & Okhtya, N.V. (2004). *"The method of projects" and its use in secondary schools and higher engineering schools:* Textbook. manual / Samar. state tech. un-t. (p.48). Samara.
9. Mikhelkevich, V.N., Nesterenko, V.M., & Kravtsov, P.G. (2004). *Innovative pedagogical technologies*. (p.91). Samara: Textbook - SamSTU.
10. (2005). *General and professional pedagogy: a textbook for students of pedagogical universities*. Ed. V.D. Symonenko. (p.368). Moscow: Ventana - Graf.
11. Petrov, A.Yu. (2005). *Competence approach in continuous professional training of engineering pedagogical personnel*: monograph. (p.408). Nizhny Novgorod: Publishing house of VGIPU.
12. Radaev, V.V. (2001). *How to organize and present a research project*. (p.203). Moscow: GU-VSHE, INFRA-M.

13. Samorodsky, P.S. (1995). *Fundamentals of the development of creative projects:* A book for a teacher. (p.220). Bryansk: BSPU.

14. Furaeva, E.V. (2005). The structure and content of project activities. *Standards and monitoring*, No. 2, pp. 22-23.

15. Shilov, S.E., & Kalnei, V.A. (2005). The structure and content of project activities. *Standards and monitoring*, No. 2, pp. 33-37.

16. Miller, R. (1992). *What Are Schools For? Holistic Education In American Culture.* (p.153). Brandon, Vermont, USA.

17. Botirov, D.B., Tangirov, Kh.E., Mamatkulova, U.E., Aliboyev, S.Kh., Khaitova, N.F., & Alkorova, U.M. (2020). The importance of teaching algorithms and programming languages in the creation of electronic education resources. *Journal of Critical Reviews*, *7*(11), 365-368. doi:10.31838/jcr.07.11.63

18. Sattarov, A.R., Yusupov, R.M., Khaitov, F.N., Jomurodov, D.M., Ahmedov, F.K., & Khonimkulov, U.S. (2020). Some didactic opportunities of application of mobile technologies for improvement in the educational process. *JCR*, 7(11): 348-352.